

REMARKS

Reconsideration and allowance of the subject patent application are respectfully requested.

While not acquiescing in the rejections set forth in the office action, claims 1, 25 and 41 have been amended as discussed in greater detail below. Claims 11-20 and 28-37 have been amended for consistency with the amendments to claims 1 and 25.

Amendments of a formal nature have been made to claims 4, 10, 22 and 27.

Claims 1, 25 and 41 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 19 and 34, respectively, of U.S. Patent No. 6,263,252. While not acquiescing in these rejections, claims 1, 25 and 41 of this application have been amended as noted above and discussed in greater detail below. Reconsideration of the double patenting rejections in light of these amendments is respectfully requested.

Claims 1, 2, 4-10, 21-27 and 38-42 were rejected under 35 U.S.C. Section 103(a) as allegedly being unpatentable over St. Ville (U.S. Patent No. 5,594,651) in view of Wu *et al.* (U.S. Patent No. 5,654,077). Applicant traverses this rejection for the reasons set forth in the prior response of October 24, 2002, which reasons are incorporated herein. In addition, independent claims 1, 25, and 41 have been amended to describe methods in which an impurity is introduced into an object while the object is manufactured, wherein an amount of the introduced impurity is variable for the respective volume increments of the object. Thus, by way of example, not limitation, during the element by element manufacturing of an object, one amount of impurity may be introduced at the surface of

the object while another (*e.g.*, lesser) amount of impurity may be introduced beneath the surface of the object. *See, e.g.*, pages 6 and 7 of the specification. The proposed combination of St. Ville and Wu *et al.* does not teach or suggest introducing an impurity as claimed.

Legere *et al.* (U.S. Patent No. 6,087,571) discloses that the uniaxially oriented materials described therein may be transversely isotropic. Among other things, Legere *et al.* does not disclose introducing an impurity as claimed. Thus, even assuming that the combination of Legere *et al.* with St. Ville and Wu *et al.* would have been proper and that the combination were made, the combination would not have resulted in the subject matter of claims 1, 25 and 41 or of the claims that depend therefrom.

Castanie *et al.* (U.S. Patent No. 6,290,889) is alleged to disclose composite materials comprised of structural fibers laminated in a matrix. Castanie *et al.* does not, however, remedy the deficiencies of the proposed St. Ville-Wu *et al.* combination with regard to introducing an impurity. As such, even assuming that Castanie *et al.* were properly combinable with St. Ville and Wu *et al.*, the combination would not have resulted in the subject matter of claims 1, 25 and 41 or of the claims that depend therefrom.

Various references (*i.e.*, Abatangelo, Johnson *et al.*, Bonadio *et al.*, Warren, Jr., Tadros *et al.*, Slaikeu, Hermann, Phipps *et al.*, and Mavity *et al.*) are cited as allegedly showing biologic materials, bone, crushed bone, co-factors, biological cells, bio-active material, medications, antibiotics, and radioactive materials. Applicant does not acquiesce in the characterizations in the office action of these references. In any event, none of these references teaches or suggests introducing an impurity into an object while

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the object is manufactured, wherein an amount of the introduced impurity is variable for the respective volume increments of the object.

New claims 43-55 have been added. The subject matter of these new claims is fully supported by the original disclosure and no new matter is added. These claims are believed to be allowable for reasons similar to those advanced above.

At least for the foregoing reasons, it is believed that the application meets all formal requirements and that the pending claims properly distinguish the claimed subject matter over the prior art. Accordingly, favorable action is requested.

Respectfully submitted,

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A handwritten signature in cursive script, appearing to read "Michael J. Shea", is written over a horizontal line.

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